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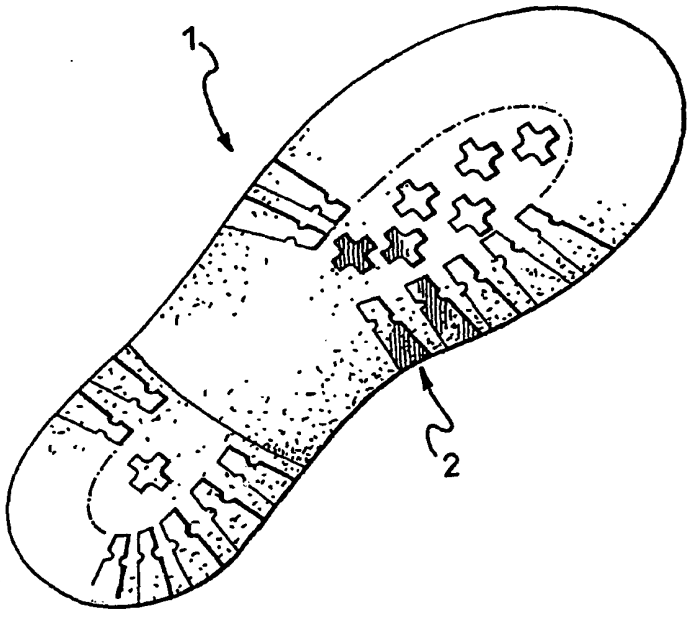
(54) Title: A SOLE STRUCTURE

(57) Abstract

A lightweight, environmentally favorable, sole (1) structure (2) comprises a matrix (3) of an elastomeric material, and rice husks (4) dispersed through said matrix (3).



involves milling and the like operations and is, therefore, a cost-intensive one.

It has also been suggested of dispersing, through the elastomeric material of the sole, cork reduced to a sufficiently fine grain size. While being light, soles so constructed have shown to wear rapidly.

The underlying problem of this invention is to provide a sole structure which can fill the aforementioned need and yet overcome the shortcomings of prior art soles.

This problem is solved by a sole structure which is characterized in that it comprises a matrix of an elastomeric material and a filler selected from the husks of gramineae, cereals and the like, dispersed through said matrix material.

Further features and the advantages of a sole structure according to the invention will be apparent from the following description of a preferred embodiment thereof, given by way of example and not of limitation with reference to the accompanying drawing, in which:

Figure 1 shows a sole structure according to the invention;

Figure 2 is a sectional view of the sole structure in Figure 1; and

Figure 3 is a sectional detail view, drawn to a much enlarged scale, of the sole structure in Figure 1.

With reference to the drawing views, generally shown at 1 is a sole having a structure 2 according to the invention.

The structure 2 comprises a matrix 3 of an elastomeric material, preferably natural rubber.

Dispersed uniformly through the structure 2 is a filler 4 which is selected from the husks of gramineae, cereals and the like.

In particular, the filler 4 advantageously comprises rice husks, as conventionally left over from rice threshing and/or polishing processes. As is known, husks are essentially composed of cellulose particles which are practically bi-dimensional, that is in the form of thin flakes.

Preferably, but not necessarily, the husks are preliminarly processed through washing, bleaching, and drying steps.

The structure is obtained by blending the rubber and husks together, and vulcanizing the resultant blend, preferably at a low temperature, such as a temperature in the 130° to 160°C range, for a relatively long time, e.g. in the 10 to 20 minutes

described by skilled persons in the art to fill specific and contingent demands, which all are encompassed, however, by the protection scope of the invention as defined in the following claims.

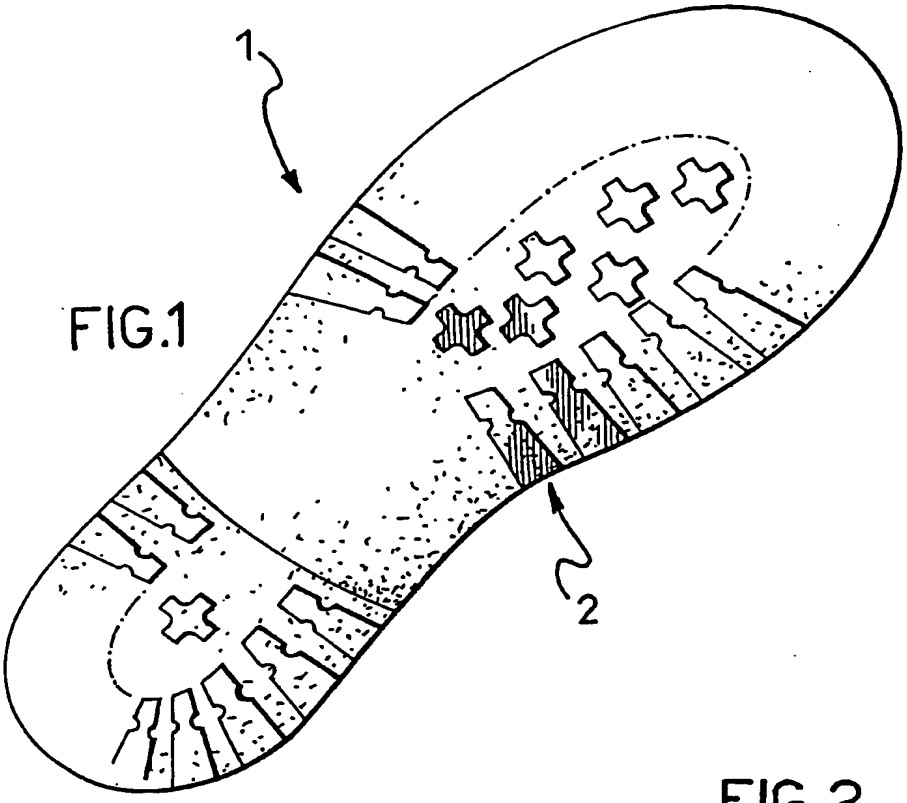


FIG.1

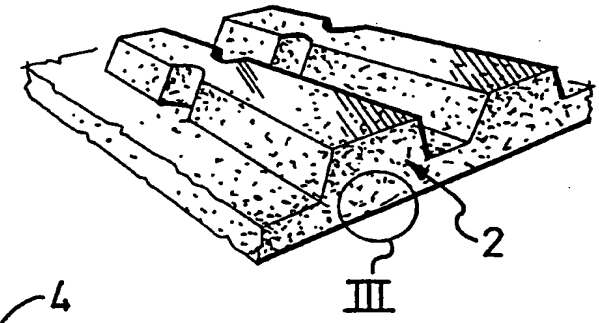


FIG.2

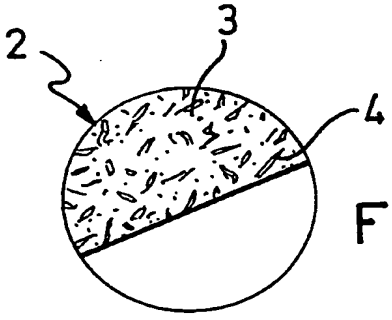


FIG.3

INTERNATIONAL SEARCH REPORT

Intern al Application No
PCT/EP 95/00275

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	PATENT ABSTRACTS OF JAPAN vol. 017 no. 373 (C-1083) ,14 July 1993 & JP,A,05 059223 (OHTSU TIRE & RUBBER CO LTD:THE) 9 March 1993, see abstract	1-4
Y	PATENT ABSTRACTS OF JAPAN vol. 016 no. 249 (C-0948) ,8 June 1992 & JP,A,04 055445 (NIHON SUPESHIYARITEI PURODAKUTSU KK;OTHERS: 01) 24 February 1992, see abstract	1-4
Y	PATENT ABSTRACTS OF JAPAN vol. 004 no. 077 (C-013) ,4 June 1980 & JP,A,55 043134 (ATAKA TAKASHI) 26 March 1980, see abstract	1-4
A	DATABASE WPI Section Ch, Week 9023 Derwent Publications Ltd., London, GB; Class A83, AN 90-171714 & CN-A-1 033 929 (ZHAO YONGGEN) , 19 July 1989 see title	1-4
A	DE,U,16 55 249 (CONTINENTAL GUMMI-WERKE A.G.) 20 September 1952 see claim; figures	1

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